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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A non-toxic *Pseudomonas* exotoxin A-like chimeric immunogen comprising in sequence: (1) a cell recognition domain of between 10 and 1500 amino acids that binds to a cell surface receptor of a cell from a mammal; (2) a translocation domain comprising a polypeptide having an amino acid subsequence at least ~~90%~~ 95% identical to the sequence of *Pseudomonas* exotoxin A (PE) (SEQ ID NO:2) from amino acid position 280 to amino acid position 344 thereof and wherein the domain is capable of effecting translocation to the cytosol of the cell; (3) an epitope presenting domain having an amino acid sequence of between 5 and 350 amino acids in length consisting essentially of one cysteine to cysteine disulfide bonded loop of a pathogen wherein the loop encodes an epitope of the pathogen ~~and comprising an amino acid sequence of between 5 and 350 amino acids that encodes an epitope that~~ and wherein the epitope is non-native to PE domain Ib ~~and is located within the loop, and wherein the epitope is from a pathogen~~; and (4) an endoplasmic reticulum (ER) retention domain wherein the ER domain is capable of effecting translocation to the endoplasmic reticulum of the cell and wherein the ER retention domain lacks ADP ribosylation activity.

Claim 2 (currently amended): The immunogen of claim 1, wherein the cell recognition domain is domain 1a of PE and the translocation domain is domain II of PE. ~~, and the ER retention domain is domain III of PE, wherein domain III lacks ADP ribosylation activity.~~

Claim 3 (previously presented): The immunogen of claim 1 wherein the cell recognition domain is domain Ia of PE.

Claims 4 (withdrawn): The immunogen of claim 1 wherein cell recognition domain binds to α2-macroglobulin receptor ("α2-MR"), epidermal growth factor ("EGF") receptor; the IL-2 receptor; the IL-6 receptor, HIV-infected cells; a chemokine receptor; a leukocyte cell surface receptor; a ligand for the IgA receptor; or an antibody or antibody fragment directed to a receptor.

Claim 5 (withdrawn): The immunogen of claim 1 wherein cell recognition domain comprises amino acid sequences of a growth factor or an antibody.

Claim 6 (withdrawn): The immunogen of claim 1 wherein cell recognition domain is comprised within the ER retention domain.

Claim 7 (previously presented): The immunogen of claim 1 wherein the translocation domain comprises the amino acid sequence of SEQ ID NO:2. from the amino acid at position to 280 to the amino acid at position 364.

Claim 8 (previously presented): The immunogen of claim 1 wherein the translocation domain is domain II of PE.

Claim 9-10 (canceled).

Claim 11 (withdrawn): The immunogen of claim 1 wherein the non-native epitope doman comprises an amino acid sequence selected from CTRPNYNKRK RIHIGPGRAF YTTKNIIGTI RQAHC (SEQ ID NO:3) or CTRPSNNTRT SITIGPGQBF YRTGDIIGDI RKAYC (SEQ ID NO:4).

Claim 12 (currently amended): The immunogen of claim 1 wherein the ER retention domain is domain III of PE having a deletion which eliminates ~~, wherein domain III lacks~~ ADP ribosylation activity.

Claim 13 (previously presented): The immunogen of claim 1 wherein the ER retention sequence comprises REDLK (SEQ ID NO:11).

Claim 14 (withdrawn): The immunogen of claim 1 which has an amino acid sequence selected from:

PE (SEQ ID NO:2) except that amino acids 361-384 are substituted with the amino acid sequence: Gly Ala Ala Asn Leu His Cys Gly Ile His Ile Gly Pro Gly Arg Ala Phe Tyr Thr Thr Lys Cys Met Gln Gly Pro Ala Asp (SEQ ID NO:7) and amino acid Glu at position 553 is deleted (ntPE-V3MN14), and

PE (SEQ ID NO:2) except that amino acids 361-384 are substituted with the amino acid sequence: Gly Ala Ala Asn Leu His Cys Asn Tyr Asn Lys Arg Lys Arg Ile His Ile Gly Pro Gly Arg Ala Phe Tyr Thr Thr Lys Asn Ile Ile Gly Thr Ile Cys Met Gln Gly Pro Ala Asp (SEQ ID NO:8) and amino acid Glu at position 553 is delted (ntPE-V3MN26).

Claim 15 (withdrawn): The immunogen of claim 1 wherein the non-native epitope is an epitope from a viral, bacterial or parasitic protozoan pathogen.

Claim 16 (withdrawn): The immunogen of claim 9 wherein the non-native epitope is an epitope of a V3 loop of gp120 of HIV-1.

Claim 17 (withdrawn): The immunogen of claim 9 wherein the non-nativae epitope is an epitope of a principal neutralizing loop of a retrovirus.

Claim 18 (withdrawn): The immunogen of claim 9 wherein the non-native epitope is an epitope of a major neutralizing loop of HIV-2 or a V3 loop of gp120 of HIV-1 of at least 8 amino acids including a V3 loop apex.

Claim 19 (withdrawn): A recombinant polynucleotide comprising a nucleotide sequence encoding a non-toxic Pseudomonas exotoxin A-like ("PE-like") chimeric immunogen, the PE-like chimeric immunogen comprising: (1) a cell recognition domain of between 10 and 1500 amino acids that binds to a cell surface receptor; (2) a translocation domain

comprising an amino acid sequence substantially identicial to a sequence of PE domain II sufficient to effect translocation to a cell cytosol; (3) a non-native epitope domain comprising an amino acid sequence of between 5 and 1500 amino acids that encodes a non-native epitope; and (4) an amino acid sequence encoding an endoplasmic reticulum ("ER") retention domain that comprises an ER retention sequence.

Claim 20 (withdrawn): The recombinant polynucleotide of claim 19 which is an expression vector further comprising an expression control sequence operatively linked to the nucleotide sequence.

Claim 21 (withdrawn): The recombinant polynucleotide of claim 19 wherein the nucleotide sequence encodes the amino acid sequence of PE wherein domain Ib of PE further comprises the non-native epitope between two cysteine residues of domain Ib and wherein amino acide Glu at position 553 is deleted.

Claim 22 (withdrawn): A recombinant non-toxic Pseudomonas exotoxin A-like ("PE-like") chimeric immunogen cloning platform comprising a nucleotide sequence encoding: (1) a cell recognition domain of between 10 and 1500 amino acids that binds to a cell surface receptor; (2) a translocation domain comprising an amino acid sequence substantially identical to a sequence of PE domain II sufficient to effect translocation to a cell cytosol; (3) an amino acid sequence encoding an endoplasmic reticulum ("ER") retention domain that comprises an ER retention sequence and (4) a splicing site between the sequence encoding the translocatin domain and the sequence encoding the ER retention domain.

Claim 23 (withdrawn): The recombinant cloning platform of claim 22 which is an expression vector further comprising an expression control sequence operatively linked to the nucleotide sequence.

Claims 24-25 (canceled).

Claim 26 (withdrawn): The method of claim 24 wherein the non-native epitope is an epitope of the V3 domain of HIV-1.

Claim 27 (canceled).

Claim 28 (withdrawn): The vaccine of claim 27 comprising a plurality of PE-like chimeric immunogens, each immunogen having a different non-native epitope.

Claims 29-30 (canceled).

Claim 31 (withdrawn): The vaccine of claim 28 wherein the different non-native epitopes are epitopes of different strains of the same pathogen.

Claim 32 (withdrawn): The vaccine of claim 31 wherein the non-native epitope is an epitope of the V3 loop of HIV-1 and the different strains of the same pathogen are HIV-1 MN and HIV-1 Thai-E.

Claim 33 (canceled).

Claim 34 (withdrawn): The method of claim 33 wherein the non-native epitope comprises a binding motif for an MHC Class II molecule of the subject and the immune response elicited is an MHC Class II dependent cell-mediated immune response.

Claim 35 (withdrawn): The method of claim 33 wherein the non-native epitope comprises a binding motif for an MHC Class I molecule of the subject and the immune response elicited is an MHC Class-I dependent cell-mediated immune response.

Claim 36 (withdrawn): The method of claim 33 wherein the non-native epitope is an epitope of the V3 domain of HIV-1.

Claims 37-38 (canceled).

Claim 39 (withdrawn): A polynucleotide vaccine comprising at least one recombinant polynucleotide comprising a nucleotide sequence encoding a non-toxic Pseudomonas exotoxin A-like ("PE-like") chimeric immunogen, the PE-like chimeric immunogen comprising: (1) a cell recognition domain of between 10 and 1500 amino acids that binds to a cell surface receptor; (2) a translocation domain comprising an amino acid sequence substantially identical to a sequence of PE domain II sufficient to effect translocation to a cell cytosol; (3) a non-native epitope domain comprising an amino acid sequence of between 5 and 1500 amino acids that encodes a non-native epitope; and (4) an amino acid sequence encoding an endoplasmic reticulum ("ER") retention domain that comprises an ER retention sequence.

Claim 40 (withdrawn): A method of eliciting an immune response against a non-native epitope in a subject, the method comprising the step of administering to the subject a polynucleotide vaccine comprising at least one recombinant polynucleotide comprising a nucleotide sequence encoding a non-toxic Pseudomonas exotoxin A-like ("PE-like") chimeric immunogen, the PE-like chimeric immunogen comprising: (1) a cell recognition domain of between 10 and 1500 amino acids that binds to a cell surface receptor; (2) a translocation domain comprising an amino acid sequence substantially identical to a sequence of PE domain II sufficient to effect translocation to a cell cytosol; (3) a non-native epitope domain comprising an amino acid sequence of between 5 and 1500 amino acids that encodes a non-native epitope; and (4) an amino acid sequence encoding an endoplasmic reticulum ("ER") retention domain that comprises an ER retention sequence.

Claim 41 (withdrawn): The method of claim 40 wherein the recombinant polynucleotide is an expression vector comprising an expression control sequence operatively linked to the nucleotide sequence.

Claim 42 (withdrawn): The method of claim 40 wherein the nucleotide sequence further encodes a mammalian secretory sequence attached to the amino terminus of the immunogen.

Claim 43 (withdrawn): A method of eliciting an immune response against a non-native epitope in a subject, the method comprising the steps of transfecting cells with a recombinant polynucleotide comprising a nucleotide sequence encoding a non-toxic Pseudomonas comprising: (1) a cell recognition domain of between 10 and 1500 amino acids that binds to a cell surface receptor; (2) a translocation domain comprising an amino acid sequence substantially identical to a sequence of PE domain II sufficient to effect translocation to a cell cytosol; (3) a non-native epitope domain comprising an amino acid sequence of between 5 and 1500 amino acids that encodes a non-native epitope; and (4) an amino acid sequence encoding an endoplasmic reticulum ("ER") retention domain that comprises an ER retention sequence.

Claims 44-46 (canceled).

Claim 47 (previously presented): The immunogen of claim 15, wherein the translocation domain comprises an amino acid sequence at least 98% identical to the PE amino acid sequence (SEQ ID NO:2) from amino acid position 280 to amino acid position 344 thereof.

Claim 48 (previously presented): The immunogen of claim 1, wherein the translocation domain comprises an amino acid sequence identical to the PE amino acid sequence (SEQ ID NO:2) from amino acid position 280 to amino acid position 344 thereof.

Claim 49 (previously presented): The immunogen of claim 1, wherein the cell is from a rodent or rabbit.

Claim 50 (previously presented): The immunogen of claim 1, wherein the cell is from a primate or a human.